

CLAIMS

1. A reversible electromagnetic wave shielding knitted material comprising a conductive fiber yarn as a surface side and a natural fiber yarn as a back side.

5 2. A material according to claim 1, which comprises a plain knitted structure or rib knitted structure obtained by plating the conductive fiber yarn and the natural fiber yarn in all the courses of the knitted material.

10 3. A material according to claim 1, wherein the conductive fiber yarn is a multifilament in which each filament comprises a nylon fiber, a polyester fiber, an acrylic fiber, a polypropylene fiber or like synthetic fiber having a denier (d) of about 2 to about 8, and a  
15 metal component applied to a surface of the synthetic fiber by sputtering, vacuum deposition, electroless plating or like method.

4. A material according to claim 1, wherein the conductive fiber yarn is a fiber of polyacetylene or like  
20 conductive resin, or a fine wire of gold, silver, copper, stainless steel or like metal.

5. A material according to claim 1, wherein the natural fiber yarn comprises a natural fiber, a natural fiber/rayon fiber mixed spun yarn, or a natural fiber/  
25 synthetic fiber mixed spun yarn.

6. A material according to claim 1, wherein the  
conductive fiber yarn is a silver-plated nylon yarn having  
a denier (d) of about 70 to about 210, and the natural  
fiber yarn is a cotton yarn having a count of 30 to 150,  
5 the material having a KES hand value (G-soft) of at least  
6 and an electromagnetic wave shielding capability of at  
least 20 dB.

7. A material according to claim 1, which  
comprises, as the surface side, the conductive fiber yarn  
10 and an elastic fiber yarn interknitted with each other.

8. A material according to claim 7, wherein the  
elastic fiber yarn is a single-covered yarn or a double-  
covered yarn comprising a polyurethane thread as a  
stuffing thread covered with a nylon thread.

9. A material according to claim 7, wherein the  
elastic fiber yarn has a denier (d) of about 10 to about  
15 200.

10. A material according to claim 7, wherein  
the proportion of the elastic fiber yarn is greater than 0  
20 but not greater than 2/3 of the total amount of the  
conductive fiber yarn and the elastic fiber yarn  
interknitted with each other.

11. A material according to claim 1, which is  
used as an undergarment.

25 12. An electromagnetic wave shielding garment

obtainable by: measuring electromagnetic wave shielding capability as a garment using an apparatus for measuring and evaluating electromagnetic wave shielding capability comprising a measurement system in the shape of the upper  
5 part of the human body for measuring electromagnetic wave shielding capability as a garment in the state of being worn by the human body; designing a garment shape to obtain a desired electromagnetic wave shielding capability; and making a garment of the designed shape.

- 10 13. An electromagnetic wave shielding garment according to claim 12, wherein the apparatus for measuring and evaluating electromagnetic wave shielding capability comprises: a signal transmitter for emitting a high-frequency signal; a transmission antenna connected to the  
15 high-frequency signal transmitter for radiating a high-frequency electromagnetic field into a free space; a dummy which is similar to the human body in shape and electric constants including dielectric constant and magnetic permeability; a receiving antenna provided at a  
20 predetermined position within the dummy for receiving the high-frequency electromagnetic field, the receiving antenna being equivalent in impedance to the human body and similar in shape to a lead wire of a device surgically implantable in the human body; and a signal receiver  
25 connected to the receiving antenna for receiving the high-

frequency signal.

14. A garment according to claim 12, which has an electromagnetic wave shielding capability as a garment of at least 15 dB when the distance between the  
5 transmission antenna and the surface of the dummy is 5 cm, at least 18 dB when the distance is 10 cm, and at least 20 dB when the distance is 20 cm, relative to the amount of electromagnetic waves received by the dummy without the garment.

10 15. An electromagnetic wave shielding garment according to claim 12, which has such a shape that forms no gap when worn.

15 16. An electromagnetic wave shielding garment according to claim 15, wherein the shape that forms no gap is an undergarment or a T-shirt.

17. An electromagnetic wave shielding garment according to claim 12, which prevents electromagnetic waves from causing cardiac pacemaker malfunction.